

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



20 JAN 2005

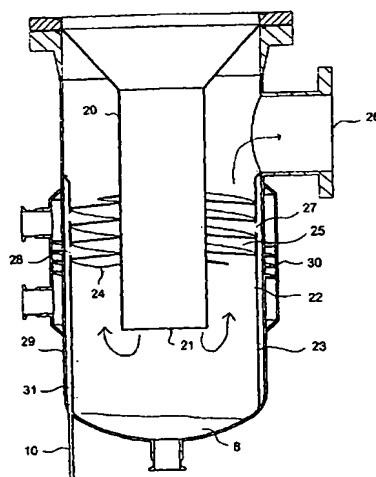
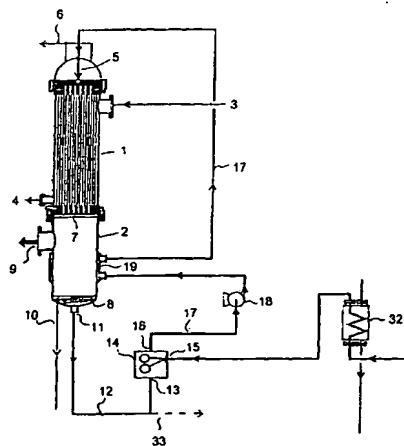
(43) International Publication Date
11 March 2004 (11.03.2004)

PCT

(10) International Publication Number
WO 2004/020066 A1

- (51) International Patent Classification⁷: **B01D 1/06**
- (21) International Application Number: PCT/FI2003/000630
- (22) International Filing Date: 28 August 2003 (28.08.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
20021538 28 August 2002 (28.08.2002) FI
- (71) Applicant (for all designated States except US): **STERIS EUROPE INC. SUOMEN SIVULIKE [FI/FI]**; Teollisuustie 2, FIN-04300 Tuusula (FI).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **SALMISUO, Mauri [FI/FI]**; Marsuntie 12-14 C 11, FIN-04320 Tuusula (FI). **LAITINEN, Ilkka, Olavi [FI/FI]**; Porvoontie 661, FIN-07740 Gammelby (FI).
- (74) Agent: **OY JALO ANT-WUORINEN AB**; Iso Roobertinkatu 4-6 A, FIN-00120 Helsinki (FI).
- (81) Designated States (national): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT (utility model), PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND DEVICE FOR THE PRODUCTION OF PURIFIED STEAM



(57) **Abstract:** The invention relates to a method and a device for the production of pure steam. A falling-film evaporator is used. Of the water-steam mixture leaving the evaporator unit, part of the water is collected at the bottom of the device, and a fraction mainly consisting of steam enters a rising spiral channel for the separation of impurities. In the periphery of the spiral channel apertures are provided for separating impurity-containing droplets, which condense on a surface outside the apertures. The liquid formed is removed from the device. The water phase collected at the bottom enters a recycle line connected to the feed end of the evaporator unit. Feed water is supplied to the recycle line to compensate for pure steam consumption.